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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,460	12/28/2001	Pieter Tjerk Koopman	3135-011614	9480

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EXAMINER	
AN, SHAWN S	
ART UNIT	**PAPER NUMBER**
2621	

MAIL DATE	DELIVERY MODE
08/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/937,460	KOOPMAN, PIETER TJERK	
	Examiner	Art Unit	
	Shawn S. An	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22,24,26-30,32-34,36,40 and 42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22,24,26-30,32-34,36,40 and 42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. As per Applicant's instructions as filed on 5/21/07, claims 22 and 36 have been amended, and claims 1-21, 23, 25, 31, 35, 37-39, and 41 have been canceled.

Response to Remarks

2. As per Applicant's remarks/arguments regarding section **B** (Applicant; page 8), please refer to the following grounds of rejection.

In response to Applicant's argument that the Bacus patents are nonanalogous art (section **C** (Applicant; page 9)), it has been held that a prior art reference must either be in the field of Applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the Bacus patents are in the field of Applicant's endeavor such as a device for selecting and recording an image of an object comprising complexes of DNA, RNA, or proteins. Further, Applicant's invention relates to a device and a method for recording an image of an object for the analysis of DNA or protein (cell) structures. Bacus' (primary) reference relates to a device and a method for recording an image of an object for the analysis of cell structures. Furthermore, Bacus (primary) teaches property measure of cells in terms of such features as DNA content ..., and the ratio of the size of nucleus to that of the cytoplasm (col. 1, lines 50-59). Moreover, Bacus' (secondary) reference teaches recording an image of an irradiated or emissive structure of DNA, and placing the DNA structure in stationary position for cellular image analysis (col. 3, lines 42-59; col. 4, lines 39-58). Therefore, all of the cited Bacus' references are quite similar in the field of technology/endeavor (biology, medical image analysis, cellular analysis) as Applicant's invention.

Furthermore, as per Applicant's argument regarding the scale difference between the two fields of endeavor, there are conventional microscopic camera(s), which can accommodate capturing images of various sizes/scale.

Moreover, Applicant's arguments with respect to amended claims have been carefully considered but are moot in view of the new ground(s) of rejection incorporating previously cited prior art references.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 22, 24, 26-29, 32-34, 36, 40, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bacus (4,175,860)(Primary reference) in view of Bacus (4,741,043) (Secondary reference) and Bacus et al (5,134,662) (Third reference).

Regarding claims 22, 24, 27, and 36, Bacus discloses a device for selecting and recording an image of an irradiated or emissive object, comprising:

a movable object holder (Fig. 1, 10) for positioning the object (slide comprising cell(s)) in a stationary position (*after controlling of the X and Y controllers, it is subsequently in a stationary position, thus the object holder takes stationary form*) (col. 6, lines 17-24; col. 7, lines 62-68);

at least one mirror (20 or 28) for reflecting an image of the object; and

a camera (32), for selecting a part of the image from the reflected image of the object while holding the object in the stationary position (*see also above*

explanation) (Fig. 1; col. 6, lines 29-68; col. 7, lines 1-10 and lines 62-68; col. 8, lines 1-30).

Note: the beam splitter (20) is defined as a mirror or prism that is used to divide a beam of radiation into two or more parts.

Bacus patents' object holders are movable as opposed to immovable object holder(s). However, this is considered an obvious design choice such that by simply positioning the object and then disabling or not utilizing/using the X and Y controllers/knobs, the object holder is now rendered immovable.

Bacus does not particularly disclose at least one mirror being displaceable.

However, Bacus et al (third reference) teaches at least one displaceable mirror so that the Bacus' mirror (160, 162, 158) is rotatable around a single rotation axis for the purpose of reflecting a chosen part of the image to a viewing area (col. 18, lines 54-62; col. 19, lines 55-68; col. 20, lines 1-3).

Furthermore, Bacus does not specifically disclose recording an image of an irradiated or emissive object comprising complexes of DNA, RNA, or protein (preamble).

However, Bacus (primary reference) teaches property measure of cells in terms of such features as DNA content ..., and the ratio of the size of nucleus to that of the cytoplasm (col. 1, lines 50-59).

Moreover, Bacus (secondary reference) teaches recording an image of an irradiated or emissive object comprising complexes of DNA, and placing the DNA content in stationary position for cellular image analysis (col. 3, lines 42-59; col. 4, lines 39-58).

Therefore, it would have been considered obvious to a person of ordinary skill in the art employing a device for selecting and recording an image as taught by Bacus (primary) to easily substitute the cell object with the DNA, and/or additionally analyze the DNA for the cellular image analysis, and further incorporate Bacus et al's teaching as above so that the Bacus' (third ref.) mirror is displaced around a single rotation axis such as to better select a part of the image from the reflected image of the Bacus

(primary) object as an *alternative* efficient way to select and record an image of an irradiated or emissive object.

Regarding claim 32, it is considered quite obvious for Bacus's device to be provided with a housing in order to protect the device from dirt, dust, irradiation, liquid pour, vandalism, etc.

Furthermore, the Examiner takes official notice that a housing such as Bacus's device, or any other electrical device usually is completely sealed (radiation sealed as well) for the purpose of protection and prevention so at least the external irradiation by a radiation source does not interfere with the internal radiation source in the device.

Regarding claims 26 and 40, Bacus (primary) does not specifically disclose a radiation source for irradiating the object positioned by the object holder.

However, Bacus et al (third) teaches the radiation source (Fig. 2, 19) for irradiating the structure positioned by the object holder (51).

Therefore, it would have been obvious to a person of skill in the art employing a device for selecting and recording an image as taught by Bacus to incorporate the well known concept of the radiation source for irradiating the object as above as taught by Bacus et al as an effective tool for sensing an image.

Regarding claim 33, Bacus (primary) discloses the camera being displaceable in the viewing area substantially parallel to the rotation axis of the at least one rotatable (assume combination) mirror having an elongated form (see Fig. 1).

Regarding claims 28 and 42, Bacus (third) discloses the radiation source being disposed on the side of the object remote from the at least one mirror (Fig. 2, 19).

Regarding claim 29, a drive means for rotating the at least one mirror is considered an inherent feature, because the mirror can't rotate by itself.

Regarding claim 34, it is considered an obvious feature to make the at least one rotatable mirror, rotatable axis, and a drive means for rotation to be integral with the camera so that the object image is totally aligned with the rotatable mirror, rotatable axis, and the camera.

5. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bacus, Bacus (secondary), and Bacus (third) as applied to claim 22 above, and further in view of Liu et al (5,998,796).

Regarding claim 30, Bacus does not specifically disclose drive means for displacing the camera.

However, it is well known in the image processing art for a camera to rotate in a desired angle for an effective way of taking/capturing/sensing an image.

Furthermore, Liu et al teaches a detector system for performing sample analysis such as DNA sequencing/fingerprinting (col. 1, lines 9-16) comprising an example of camera displacement/rotation for correcting such as any skew among the received pixels in the sensed image (col. 4, lines 40-49).

Moreover, a drive means for displacing the camera is considered an inherent feature, because the camera can't displace/move by itself.

Therefore, it would have been obvious to a person of skill in the art employing a device for selecting and recording an image as taught by Bacus to incorporate the well known concept of camera displacement as taught by Liu et al so that the Bacus's camera can be displaced for correcting such as any skew among the received pixels in the sensed image, thereby effectively taking/capturing/sensing an image.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date

of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Shawn S. An* whose telephone number is 571-272-7324.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

9. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

SHAWN AN
PRIMARY EXAMINER

8/06/07